

than four hours of dehydration before heading to the carrier for a night recovery. We discussed everyone's mental state, our fatigue factor, and our water supply. The food we had brought was no good to us; the ham-and-cheese sandwiches at 100-plus degrees were not very appealing. I played devil's advocate while the mission commander, one of the squadron's senior pilots, sorted out the situation and weighed our options. In the end, operational necessity dictated we remain on station.

Fortunately, the failure that caused our current condition happened after we had cold soaked the interior of the cockpit, which allowed us to tolerate the hot air for some time. As we headed back to our second tanker of the mission, we finally cried "uncle" and let the ram air take over. We watched the cabin pressure rapidly climb to several thousand feet below aircraft altitude. We continued to monitor the pressure as we climbed.


We approached 25,000 feet and switched to cockpit air to minimize the chances of extreme cabin-pressure altitude and the threat of a physiological episode. Once off the tanker, we continued the mission. We switched to ram air on the descent, and every 10 minutes or so, we turned on the defog to maintain forward visibility. When we were 10 minutes off the second tanker, we received information our relief was going to be an hour late to station. Groans emanated from the crew, and we reassessed our situation. Everyone still was positive and motivated, despite our condition. "Adapt and overcome" was the catchphrase running through my

Their lost capability was a mission requirement, so we had another 90 minutes in the heat. The mission continued uneventfully, with cycles of ram air and heat, depending on the comfort level of the crew.

The flight ultimately lasted over 8 hours, including four trips to tankers and concluding with a night CV-1 recovery to an OK 4-wire. After shutdown, we hauled ourselves and our empty water containers from the aircraft and waited to see if the failure could be found. It turned out our forward turbine had seized, preventing the main-heat exchanger from generating chilled air for the cabin. The aircraft still was getting ram air over the cooling fins, but most of the efficiency of the exchanger had been lost. Enough ram air was in the exchanger to cool the bleed air to a tolerable level, which allowed us to continue the mission.

Operational necessity is a concept that rarely is invoked as a reason to keep an aircraft in the fight. We spend most of our flight time training for combat, and the operational-risk management for such flights is simple. "If there is doubt, there is no doubt," is a classic phrase applied to such sorties. In a combat environment, time-critical ORM becomes quite different. We weighed factors such as fatigue, mission necessity, aircrew experience, and the health of the airframe to reach our decision to remain on station.

When you find yourself in a similar situation, make sure you accurately assess your situation and capabilities to determine if you meet the high threshold of operational necessity. In our case, we believe we came up with the proper

solution because of the crew-experience level and our assessment of the mission. In our final analysis, the benefits far outweighed the risk. 

LCdr. Allou flies with VAQ-140.

OPNAVINST 3710.7S, the NATOPS General Flight Operating Instruction, states that operational necessity applies

to a mission associated with war or peacetime operations in which the consequences of an action justify accepting the risk of loss of aircraft and crew.—Ed.

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mind as I took another long draw from my water bottle. A third trip to the tanker should have sent us home, but, instead, it saw us heading back to station.

We talked to our inbound relief and found out they had suffered a mission degradation.

Land Ho!

By Lt. Bill Greiner

We had a 0400 brief, a 0600 takeoff, a 0700 vertrep, a 0930 recovery, and a 1500 pier-side—for three days. We were one month into a six-month cruise, open ocean, and in the groove. Everything was as it should've been, or so we thought.

We launched to starboard, into the darkness of a moonless morning. We flew straight from the ship for five miles before turning, so the ship could bring the SPY radar to full power. The after-takeoff checklist was in progress.

As I waited for the airborne-tactical officer to finish the after takeoffs, I checked to see what our crewman was looking at on radar. Something didn't look right. A large return was six miles off the nose. Probably clouds, I thought. Out the windscreen, however, I saw nothing but stars. The ship was two miles astern; we had three miles to go. We contacted the ASTAC over HAWKLINK and asked if any islands were in the vicinity. Here's the conversation:

Pilot: "ASTAC, where's the nearest land?"

ASTAC: "Sixty three miles to the northeast."

Pilot: "There's nothing off our nose for four miles?"

ASTAC: "No sir. It looks like clouds."

Pilot (over ICS): "Does that look like clouds to you guys?"

Crewman (over ICS): "It's not real big, but it is blocking out the returns on the other side. Looks like land to me."

Pilot: "Are you sure there's not land right off our nose?"

ASTAC: "Yes, sir. The large-screen display shows nearest land at 62 miles."

We decided to turn early. If it were land, we would have seen it at that range. But, we saw stars all around, so it wasn't clouds. Something wasn't right. We didn't know how important the decision to turn the aircraft would be. We put a manual track on the closest return to

see if it was moving. As far as we could tell, it wasn't.

We had another radar return 10 miles southwest of the ship. The ship was heading northwest, right between the two returns. We could pick up the USNS ship our ship was rendezvousing with, farther to the northwest. We opened five miles astern from our ship and began to orbit in a loose racetrack pattern, as we waited for the sunrise vertrep. Still not comfortable with the cloud theory, we asked again about the land.

Pilot: "ASTAC, are you sure there's not land out here? There's not a cloud in the sky, as far as we can tell."

ASTAC: "Let me check with the TAO, but I don't show any land in the vicinity. (pause) No sir. TAO said nearest land 60 miles to the northeast."

Pilot: "Would you please check the charts to make sure?"

ASTAC: "Standby, sir." (one minute later) "Sir, there is land 030, six miles, 230, 10 miles. Highest elevation 1,200 feet."

This about floored us. The entire conversation took about four minutes. Had we not checked radar as early as we did, the ASTAC never would have warned us of the peaks 700 feet above us. As the sun rose, we could make out the near vertical cliffs rising out of the ocean and the ship steaming right between them.

Where did everything break down? Let's start with the brief. As aircraft commander, it was my responsibility to check the charts to see where we were going. Just because we had been in open ocean for the previous month didn't mean it would stay that way for the rest of cruise. I was too comfortable with the mission and didn't go to the charts. Neither did the ASTAC or TAO.

We lacked situational awareness. We launched six miles from an island and had no idea it was there. Fortunately, we remained assertive and kept analyzing the situation until it made sense. This was a huge wake-up call.



Lt. Greiner flies with HSL-48.